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Letter to the Editor

The Ongoing Debate: Do Acupuncture Points Have Lower Skin Resistance Than Nonacupuncture Sites?

Dear Editor:

The recent article by Kramer et al.[1] supports our previous findings[2] that acupuncture points (APs) may not have lower skin resistance than nearby non-AP sites. However, these findings fly in the face of clinical practice and other studies.[3] Anyone who has tried to systematically measure skin impedance at APs is aware of the multiple technical difficulties that confound consistent readings. Nonetheless, while reading Kramer et al.'s work, it occurred to me that one confounder is often neglected. The surface area of the AP being measured is unknown, and therefore we are unable to define where on the skin the AP ends and the non-AP area begins.

Compelling evidence for APs having lower skin resistance than nearby non-AP sites is seen in the topographic maps developed by Becker et al., who plotted electrical skin conductance at two APs (LI 4 and TE 4) using a 36-point probe that covered a 2-cm^2 area, centered on the AP.[4] Their plots turned out to be well organized with lines of equal conductance surrounding a central point and decreasing conductance with distance from the center. This led the authors to conclude that APs are loci of relative, not absolute, high conductance compared to surrounding skin. The appearance of the conductance plots suggest that these APs are approximately 3–5 mm in diameter.

The recent study design of Kramer et al.[1] is similar to that of Becker et al.[4] in principle, but the former used a 6×6-cm flexible plastic foil with 64 probes spaced 8 mm apart, to record skin resistance around each AP. The foil was placed over anatomical areas that included both non-AP areas and APs. Resistance measurements were plotted in a 64-square grid. An acupuncturist, blinded to the readings, then identified the exact AP location within the 6×6-cm area and marked the skin with an "X". Average resistance in the a 2.25-cm square surrounding the "X" defined the AP. Comparing the 2.25-cm-square area to the overall 6×6-cm square, they found no difference between APs and surrounding skin in 62.8% of 631 measurements. This methodology is in marked contrast to Becker et al.'s technique of identifying a discrete central point of higher conductance within a 2-cm^2 area.

Kramer et al. acknowledge that the actual AP area of resistance might be too small to be registered by their 6×6 cm array. I agree, and I believe that we may have had the same methodological limitation in a previous study that evaluated three APs and nearby non-AP sites.[2] We used individual 5-mm-diameter electrodes to compare APs to non-AP sites that were located anywhere from 8 to 50 mm away from each other. Like Kramer's group, we found no significant difference between skin resistance at the AP compared to the non-AP sites.

My conclusion regarding the findings of Kramer et al. is more guarded than theirs. Before calling a halt to the use of skin resistance measurements for localization of acupuncture points, I propose that we precisely replicate the study design of Becker et al. Until Becker et al.'s outcomes are either confirmed or disproved, the spirited debate as to whether APs have lower skin resistance needs to continue.

References

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